

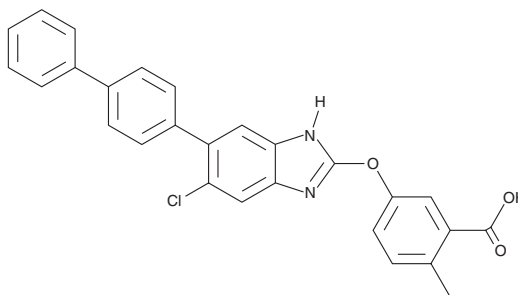
# PRODUCT INFORMATION



## MK-3903

Item No. 29661

**CAS Registry No.:** 1219737-12-8  
**Formal Name:** 5-[(5-[1,1'-biphenyl]-4-yl)-6-chloro-1H-benzimidazol-2-yl]oxy)-2-methylbenzoic acid  
**MF:** C<sub>27</sub>H<sub>19</sub>ClN<sub>2</sub>O<sub>3</sub>  
**FW:** 454.9  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 247, 279 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

MK-3903 is supplied as a solid. A stock solution may be made by dissolving the MK-3903 in the solvent of choice, which should be purged with an inert gas. MK-3903 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of MK-3903 in these solvents is approximately 0.2, 15, and 10 mg/ml, respectively.

MK-3903 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, MK-3903 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. MK-3903 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

MK-3903 is an activator of AMP-activated protein kinase (AMPK; EC<sub>50</sub> = 9 nM).<sup>1</sup> It is selective for AMPK over a kinase panel at 10 μM, as well as the cytochrome P450 (CYP) isoforms CYP3A4 and CYP2D6 (IC<sub>50</sub>s = >50 μM for both) and the pregnane X receptor (PXR; EC<sub>50</sub> = >30 μM). MK-3903 (30 mg/kg) increases muscle and liver levels of phosphorylated ACC, an AMPK substrate, and reduces insulin resistance in diet-induced obese (DIO) mice. It inhibits hepatic fatty acid synthesis in *db/db* mice when administered at doses ranging from 3 to 30 mg/kg.

### Reference

1. Lan, P., Romero, F.A., Wodka, D., *et al.* Hit-to-lead optimization and discovery of 5-((5-([1,1'-biphenyl]-4-yl)-6-chloro-1H-benzimidazol-2-yl)oxy)-2-methylbenzoic acid (MK-3903): A novel class of benzimidazole-based activators of AMP-activated protein kinase. *J. Med. Chem.* **60(21)**, 9040-9052 (2017).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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